CLAIMS

What is claimed is:

1. A kit for determining the genotype of an individual at a nucleotide corresponding to position 31 of a BDNF gene in a polynucleotide sequence of interest comprising;
   a) one or more nucleic acid probes, wherein at least one of said probes hybridizes to the polynucleotide sequence, wherein the polynucleotide sequence comprises the BDNF gene, its complement, or portion thereof, and wherein the polynucleotide sequence includes a nucleotide corresponding to position 31 of SEQ ID NO: 1; and
   b) control nucleic acid samples representing the genotype of at least one of the group consisting of: an individual homozygous for a "A" at nucleotide position 31 of the BDNF gene, an individual homozygous for a "T" at nucleotide position 31 of the BDNF gene, and an individual heterozygous for said position, wherein position 31 corresponds to position 31 of SEQ ID NO: 1.

2. A kit of Claim 1, wherein the nucleic acid probe is an SBE-FRET primer, and wherein the SBE-FRET primer hybridizes to the polynucleotide sequence such that the nucleotide corresponding to position 31 of SEQ ID NO: 1 is immediately adjacent to the 3' terminus of the SBE-FRET primer.

3. A kit of Claim 2, wherein the SBE-FRET primer comprises SEQ ID NO: 3.

4. A kit of Claim 2, further comprising fluorescently labeled dideoxynucleotides.

5. A kit of Claim 1, wherein the control nucleic acid samples comprise amplified DNA.

6. The kit of Claim 5, wherein the control samples are amplified using primers comprising SEQ ID NO: 4 and SEQ ID NO: 5.

7. A kit of Claim 1, wherein the polynucleotide sequence of interest comprises a nucleic acid sequence of at least 10 nucleotides in length, wherein said nucleic acid of interest comprises a BDNF gene or portion thereof, including position 31 of SEQ ID NO: 1.

8. A kit of Claim 7, wherein the polynucleotide sequence of interest is at least 20 nucleotides in length.

9. A nucleic acid molecule comprising a nucleic acid sequence which is at least 10 nucleotides in length, wherein said nucleic acid molecule includes a nucleotide corresponding to position 31 of SEQ ID NO: 1 or its complement, wherein said nucleotide at position 31 of SEQ ID NO: 1 is an “A”.

10. A nucleic acid molecule according to Claim 9, wherein said nucleic acid sequence is at least 20 nucleotides in length.

11. A method for predicting the likelihood that an individual will be diagnosed with a bipolar disorder, comprising the steps of;

a) obtaining a DNA sample from an individual to be assessed; and

b) determining the nucleotide present at nucleotide position 31 of brain-derived neurotrophic factor gene, as numbered in SEQ ID NO: 1,

wherein the presence of a "T" at position 31 indicates that the individual has a reduced likelihood of being diagnosed with a bipolar disorder as compared with an individual having an "A" at that position.

12. A method according to Claim 11, wherein the individual is an individual at risk for development of a bipolar disorder.

13. A method according to Claim 11, wherein the nucleotide at position 31 is determined by single-base extension using a primer capable of hybridizing to SEQ ID NO: 1, its complement or portions thereof, such that a nucleotide corresponding to nucleotide 31 of SEQ ID NO: 1 is immediately adjacent to the 3' terminus of said primer.

14. A method according to Claim 13, wherein the primer comprises SEQ ID NO: 3 or its complement.

15. A method according to Claim 13, wherein the primer is immobilized on a solid support.

16. A method for predicting the likelihood that an individual will be diagnosed with a bipolar disorder, comprising the steps of;

a) obtaining a DNA sample from an individual to be assessed; and

b) determining the nucleotide present at nucleotide position 31 of brain-derived neurotrophic factor gene, as numbered in SEQ ID NO: 1,

wherein the presence of a "A" at position 31 indicates that the individual has an increased likelihood of being diagnosed with a bipolar disorder as compared with an individual having an "T" at that position.

Replacement Sheet

17. A method according to Claim 16, wherein the individual exhibits clinical symptoms of mania or mania and depression.

18. A method according to Claim 16, wherein the individual is an individual at risk for development of a bipolar disorder.

19. A method according to Claim 16, wherein the nucleotide at position 31 is determined by single-base extension using a primer capable of hybridizing to SEQ ID NO: 1, its complement or portions thereof, such that a nucleotide corresponding to nucleotide 31 of SEQ ID NO: 1 is immediately adjacent to the 3' terminus of said primer.

20. A method according to Claim 19, wherein the primer comprises SEQ ID NO: 3 or its complement.

21. A method according to Claim 19, wherein the primer is immobilized on a solid support.

22. An oligonucleotide microarray having immobilized thereon a plurality of probes, wherein at least one of said probes is specific for the variant form of the single nucleotide polymorphism at position 31 of SEQ ID NO: 1.

23. An oligonucleotide microarray having immobilized thereon a plurality of probes, wherein at least one of said probes is specific for the reference form of the single nucleotide polymorphism at position 31 of SEQ ID NO: 1.

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